

A Study of the Look-Ahead Bottleneck First Rule under Dual Resource
Constrained Systems

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Abstract

A dual resource constrained (DRC) system where the number of labors is less than the number of machines exists in general plants. The labor assignment method which facilitates the effective management of a DRC system is a popular research area. Most of the past research in labor assignment methods has been done in evenly loaded machines. However, many shops are not balanced. Although fewer researches are in a DRC system with bottleneck machines, bottleneck first (BF) method and look-ahead bottleneck first (LABF) method have been used by some researches. Although LABF method is better than BF method, the studies of the LABF method are limited. In this paper, the LABF method is discussed first. The dispatching procedure of the LABF method is then developed. This procedure is compared with that of a BF method and a normal method. A case of a DRC system is finally utilized to evaluate the application and effective of the LABF method.

Keyword : Dual Resource Constrained (DRC) system; Bovbttleneck; Labor Assignment Method;Bottleneck First rule, Look-Ahead Bottleneck First rule